



U.S. Department  
of Transportation  
**Research and  
Special Programs  
Administration**

400 Seventh St., S.W.  
Washington, D.C. 20590

**FEB 28 2001**

DOT-E 7765  
(THIRTEENTH REVISION)

EXPIRATION DATE: January 31, 2003

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Carleton Technologies, Inc.  
Orchard Park, New York
2. PURPOSE AND LIMITATIONS:
  - a. This exemption authorizes the transportation in commerce of certain compressed gases in non-DOT specification pressure vessels. This exemption provides no relief from any regulation other than as specifically stated herein.
  - b. The safety analyses performed in development of this exemption only considered the hazards and risks associated with transportation in commerce.
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR § 173.302(a)(4) in that a non-DOT specification cylinder is not authorized, except as specified herein.
5. BASIS: This exemption is based on the application of Carleton Technologies, Inc. dated January 31, 2001 submitted in accordance with § 107.109.
6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Hazardous materials description -- proper shipping name	Hazard Class/ Division	Identi- fication Number	Packing Group
Argon, compressed	2.2	UN1006	N/A
Helium, compressed	2.2	UN1046	N/A
Nitrogen, compressed	2.2	UN1066	N/A

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**NOTE:** A missile gas storage system or component which contains a quantity of pyrotechnic materials must be classed and approved as provided for in § 173.56. If the pyrotechnic material augments the volume of the gas in the cylinder, or in any way enhances the performance of the compressed gas, the device must be tested in the same configuration as when shipped.

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Packaging prescribed is a limited life, non-DOT specification packaging, described as a missile gas storage system, consisting of a welded steel sphere, and an electric squib containing a Division 1.4 explosive. The packaging must comply with U.S. Army Drawing no. MCD 13308130, Rev. C; MCD 13308162, MCD 13308164 and MCD 13308160, submitted with Carleton Controls Corporation's application of February 13, 1979, or comply with drawings 3385-0001 and 3385-0002, submitted with Carleton Group's letter of November 30, 1982, or comply with drawing B40427 or B40450 submitted with Carleton Technologies Inc.'s letter of April 21, 1994 or comply with drawing B41707 or B41702 submitted with Carleton Technologies Inc.'s letter of April 24, 1997, or comply with drawing B42107 or B42100 submitted with Carleton Technologies Inc.'s letter of April 14, 1998, or comply with drawing B42796 submitted with Carleton Technologies Inc.'s letter of November 15, 1999 and tested as described in the specification on file with the Office of Hazardous Materials Exemptions and Approvals (OHMEA) and in compliance with DOT Specification 39 (§ 178.35 and § 178.65) except as follows:

- § 178.65(a)(1) - Maximum size may not exceed 55 cu. in.  
Maximum service pressure may not exceed 8,900 psig at 70°F.
- § 178.65(b) The material must be one of the following heat treatable steels:  
Maraging 250, Carpenter custom 455 or PH 13-8 MO steels.
- § 178.65(c)(4) Add: All welds must be 100 percent radiographically inspected.
- § 178.65(f)(1) Each cylinder must be tested at an internal pressure of at least 1.5 times the test pressure and must be held at that pressure for at least 30 seconds.

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- § 178.65(f) (2) One cylinder taken from beginning of each lot and one from each 250 or less successively produced within the lot thereafter, must be hydrostatically tested to 2.22 times the test pressure without failure.
- § 178.65(f) (2) (i) A failure occurs at a gauge pressure less than 2.22 times the test pressure.
- (f) (2) (ii), (f) (2) (iii) and (f) (2) (iv) Not applicable.
- (f) (3) \* \* \*
- (f) (4) Spheres tested per § 178.65(f) (2) must be scrapped.
- § 178.65(g) Flattening test must be performed on one cylinder taken from the two successive production lots heat treated within three weeks. The number of cylinders in a lot (see § 178.65(f) (2)) may not exceed 250.
- § 178.65(g) (3) \* \* \*  
Add: Flattening between flat plates is authorized.
- § 178.65(g) (4) Cylinders or test rings may not crack when flattened so their outer surfaces are not more than ten times wall thickness apart.
- § 178.65(i) (2) (i) Cylinders must be marked "DOT-E 7765" instead of "DOT-39".

b. OPERATIONAL CONTROLS:

- (1) Cylinders must be shipped in strong outside packagings in accordance with § 173.301(k).
- (2) Each cylinder may be filled a maximum of 10 times to a pressure not exceeding 8,900 psig, provided each is inspected and proof tested to 1.5 times the test pressure prior to filling.

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8. SPECIAL PROVISIONS:

a. A person who is not a holder of this exemption who receives a package covered by this exemption may reoffer it for transportation provided no modifications or changes are made to the package and it is reoffered for transportation in conformance with this exemption and the HMR.

b. A current copy of this exemption must be maintained at each facility where the package is offered or reoffered for transportation.

c. The completely assembled unit must qualify under the test criteria used in CGA Pamphlet S-1.1, Pressure Relief Device Standards, Part 1.

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, rail freight, cargo vessel and cargo only aircraft.10. MODAL REQUIREMENTS: A current copy of this exemption must be carried aboard each cargo vessel, aircraft or motor vehicle used to transport packages covered by this exemption. The shipper must furnish a current copy of this exemption to the air carrier before or at the time the shipment is tendered.11. COMPLIANCE: Failure by a person to comply with any of the following may result in suspension or revocation of this exemption and penalties prescribed by the Federal hazardous materials transportation law, 49 U.S.C. 5101 et seq:

o All terms and conditions prescribed in this exemption and the Hazardous Materials Regulations, 49 CFR Parts 171-180.

o Registration required by § 107.601 et seq., when applicable.


Each "Hazmat employee", as defined in § 171.8, who performs a function subject to this exemption must receive training on the requirements and conditions of this exemption in addition to the training required by §§ 172.700 through 172.704.

No person may use or apply this exemption, including display of its number, when this exemption has expired or is otherwise no longer in effect.

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12. REPORTING REQUIREMENTS: The carrier is required to report any incident involving loss of packaging contents or packaging failure to the Associate Administrator for Hazardous Materials Safety (AAHMS) as soon as practicable. (Sections 171.15 and 171.16 apply to any activity undertaken under the authority of this exemption.) In addition, the holder(s) of this exemption must inform the AAHMS, in writing, of any incident involving the package and shipments made under the terms of this exemption.

Issued in Washington, D.C.:

  
for Robert A. McGuire  
Associate Administrator for  
Hazardous Materials Safety

FEB 28 2001  
(DATE)

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Research and Special Programs Administration, Department of Transportation, Washington, D.C. 20590.  
Attention: DHM-31.

The original of this exemption is on file at the above office. Photo reproductions and legible reductions of this exemption are permitted. Any alteration of this exemption is prohibited.

Copies of exemptions may be obtained from the AAHMS, U.S. Department of Transportation, 400 7th Street, S.W., Washington, DC 20590-0001, Attention: Records Center, 202-366-5046.

PO: CWF/sln